

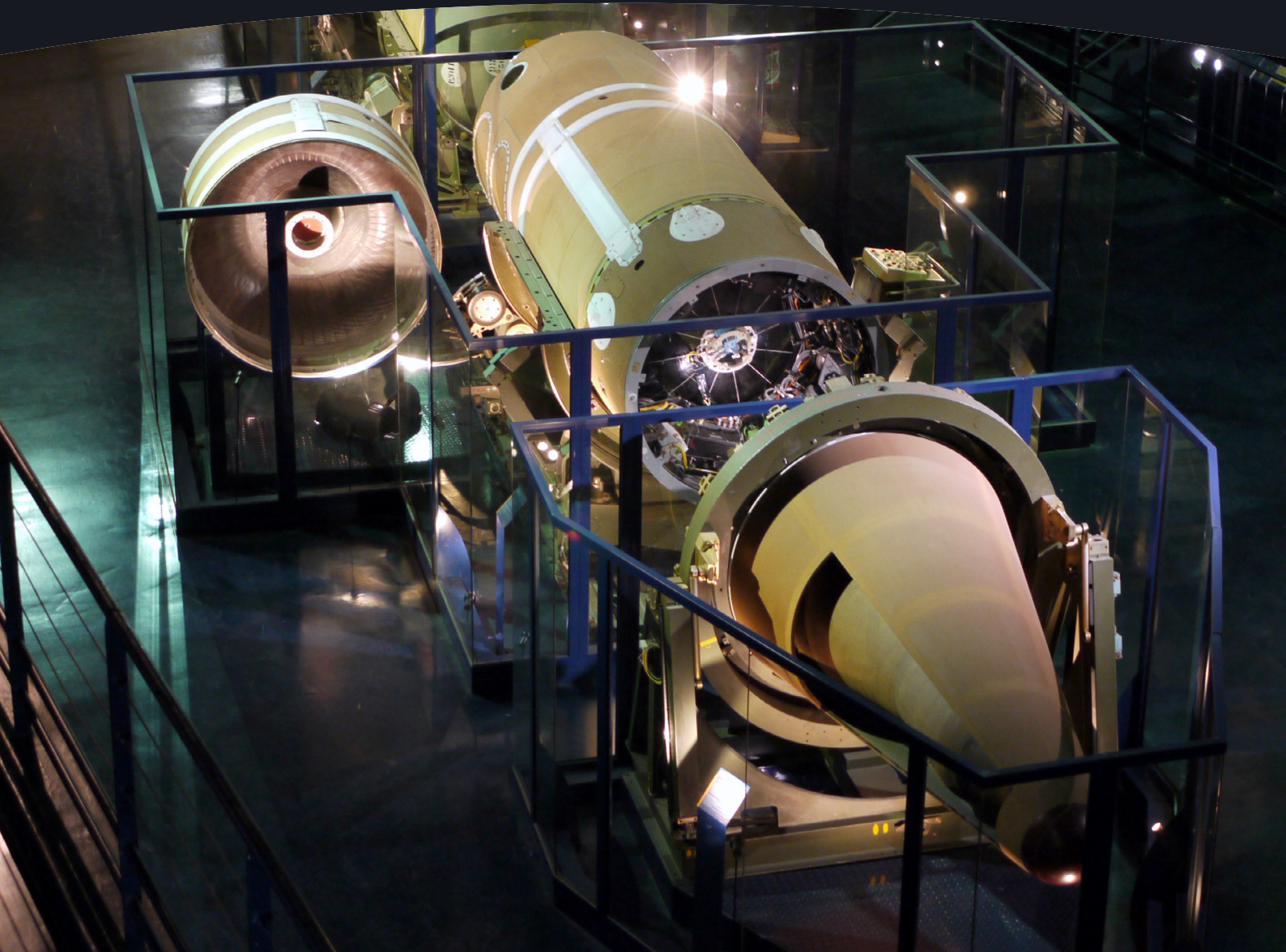


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RETREAT REPORT

Nuclear Risks: Perceptions and Pathways

ANDREY BAKLITSKIY · SARAH RUTH OPATOWSKI



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Executive Summary

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In 2023, UNIDIR organized a retreat on nuclear risk perceptions in Montreux, Switzerland. The event brought together 14 senior non-governmental experts, including former officials, from the P5 States to discuss perceptions of nuclear risks and exchange ideas around opportunities for nuclear risk reduction. This retreat was part of a series of nuclear dialogues in 2023, which also included a nuclear risk reduction event focusing on the nuclear risk perceptions from the non-nuclear-weapon States.

At the retreat, experts from China, France, the Russian Federation, the United Kingdom and the United States provided their perspectives on nuclear risk perceptions of their respective States. While Chinese, Russian and US experts seemed to be more concerned with specific actions of other States posing direct threat to their security, French and British participants focused more on the systemic challenges for nuclear order.

This led to an exchange around different forms of nuclear risks, divergent interpretations of steps and potential flashpoints leading to nuclear use, as well as what could be done to mitigate such nuclear risks. Experts discussed contrasting views on deterrence, perceptions and misperceptions, the importance of norms, difficulties of signaling, and dangers of escalation.

The event also sought to identify potential islands of convergence around which nuclear weapon and non-nuclear weapon States could advance discussion on risk reduction. Participants of the retreat were clear-eyed about the fact that there are no easy ways to address existing nuclear risks given the current political context. If anything, the global trends are going in the direction opposite of nuclear risk reduction. At the same time, the experts shared a strong determination to prevent nuclear use and agreed that every effort was to be taken to avoid this outcome.

In this context, participants identified a number of commonalities and possible risk reduction measures that could be advanced by different actors. These included continued engagements on nuclear risks, their perceptions, doctrines and security concerns among the P5 experts, resumption of regular military to military contacts, limitations and transparency of nuclear arsenals and exercises, joint research on nuclear security and non-proliferation, and sustained engagement on nuclear risks with States beyond the P5. Participants further indicated that focusing on the norm of non-use of nuclear weapons could provide a constructive starting point for joint discussions and actions.



Introduction

© Nuclear Submarine HMS Vanguard Returns to HMNB Clyde, Scotland

Concerns over nuclear risks have been steadily growing over the past decade. This trend rapidly accelerated over the last years, leading the United Nations Secretary-General António Guterres to describe the current situation as “a time of nuclear danger not seen since the height of the Cold War”.¹ The view that nuclear risk is unacceptably high and growing has been shared by heads of States and citizens across the world. Nuclear disarmament would constitute the ultimate way to address it. But until disarmament has been achieved it should be accompanied by measures to minimize the risks of nuclear use. As UN member States agreed in the 2024 Pact for the Future “while the final objective of the efforts of all States should continue to be general and complete disarmament under effective international control, the immediate goal is elimination of the danger of a nuclear war and implementation of measures to avoid an arms race and clear the path towards lasting peace”.² However, there is little agreement on what constitutes a nuclear risk or the origins of such risks. Even the nuclear-weapon States diverge in their perceptions of the risks, their priority concerns, and envisaged pathways to use. Absence of a shared understanding of nuclear risks and their origins weakens the ability of the international community to meaningfully engage in nuclear risk reduction.

To facilitate engagement on the issue, UNIDIR hosted a retreat on nuclear risk perceptions in Montreux, Switzerland, that brought together leading nuclear and strategic experts, including senior former officials,

1 António Guterres, “Secretary-General’s remarks to the Tenth Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons,” United Nations Secretary General, 1 August 2022, <https://www.un.org/sg/en/content/sg/speeches/2022-08-01/secretary-generals-remarks-the-tenth-review-conference-of-the-parties-the-treaty-the-non-proliferation-of-nuclear-weapons>.

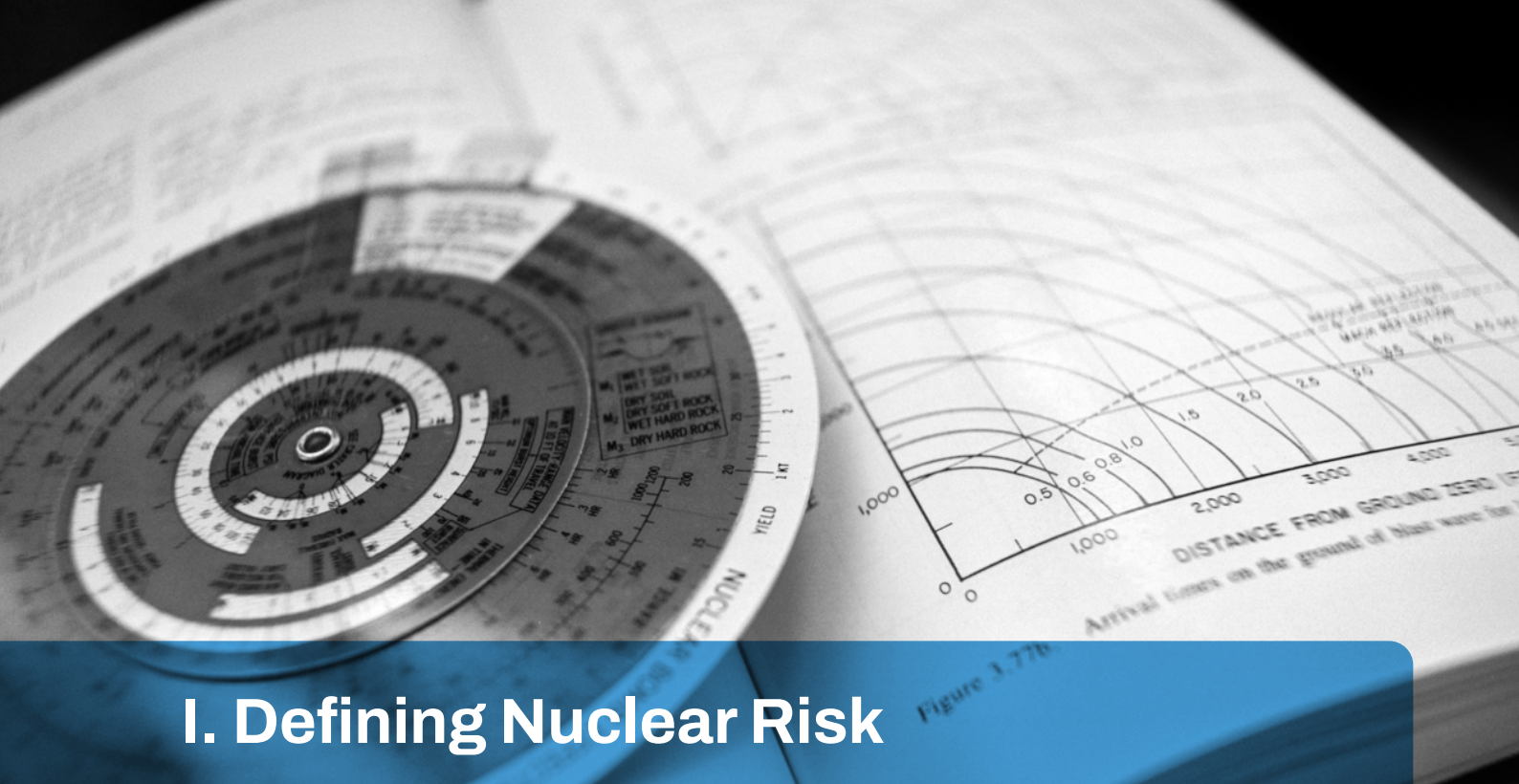
2 Pact for the Future. Action 25. Summit of the Future Outcome Documents. September 2024. <https://www.un.org/en/summit-of-the-future/pact-for-the-future>.

from the P5 – the five nuclear-weapon States (NWS) as recognized under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). The two-day retreat provided a venue for experts from China, France, the Russia Federation, the United Kingdom, and the United States to explore different views on nuclear risk, discuss diverging risk perceptions and identify areas of agreement. A number of experts were invited to present on key themes ahead of interactive discussions among all participants.

The retreat report follows the chronological order of the event. Chapters of the report roughly match the original sessions of the retreat. Within each chapter content has been rearranged to increase coherence across all discussed topics. To encourage open discussion, the retreat was held under the Chatham House Rule, so the report describes the overall takeaways from the discussion rather than statements by individual experts. In chapter II, State-specific nuclear risk perceptions were derived from the statements of the experts of the State in question only.

The first chapter focuses on defining nuclear risk and identifying key nuclear risks today. The second chapter outlines the nuclear risk perceptions emanating from each of the P5 States. The third chapter describes the measures experts believe should be taken by the other States to reduce nuclear risks. The fourth chapter explores a possible set of risks common for all the NWS. The fifth chapter identifies several risk reduction mechanisms. Finally, the sixth chapter identifies the opportunities to further the nuclear risk reduction agenda.

The report is a reflection of the workshop discussion and does not necessarily reflect the position of UNIDIR.



I. Defining Nuclear Risk

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Definition, Scenarios and Limitations

Defining nuclear risk is a challenge due to several factors. First, risk is dynamic and can alter across time and space, meaning context plays a large role in deciding what may be considered risky at any given point in time. Second, there could be multiple drivers of risk that could feed into each other. Third, a degree of risk is intrinsic to nuclear weapons and critical to deterrence. This means that when nuclear risk is discussed, a relative, acceptable, or some other specific risk is frequently implied as opposed to all possible nuclear risks. Fourth, risk assessment is subjective and exists in the eye of the beholder, meaning that the risk of nuclear weapons use is weighed not only against the risks of non-use but also against their use in less favorable circumstances, including a risk of being a victim of first nuclear strike, a risk of the costs of conventional conflict and a risk to the survival of a State. Finally, it is important to note that the spectrum of risks is not fully known and never can be. The potential use of nuclear weapons is characterized by purposeful strategic ambiguity, nuclear programs are secretive by nature, and as with any complex systems, some of the aspects of nuclear systems will always remain unpredictable and uncertain.

These factors can limit which aspects of nuclear risk become a point of focus and which are politically viable to address. In recognition of the above, participants of the retreat considered a non-exhaustive list of four nuclear risk scenarios drawn from the UNIDIR publication “Nuclear Risk Reduction: A Framework for Analysis”,³ and as seen below in table 1.

3 Wilfred Wan, *Nuclear Risk Reduction: A Framework for Analysis* (Geneva: UNIDIR, 2019), <https://unidir.org/publication/nuclear-risk-reduction-a-framework-for-analysis/>.

Table 1: Four General Types of Nuclear Risks

Type of Risk	Overview
Doctrinal use	The use of nuclear weapons follows the pathways envisioned in declared policies (primarily based on retaliation) with allowance for ambiguities in those policies.
Escalatory use	The introduction of nuclear weapons in times of crisis; linked to ongoing tensions or a specific conflict, which may or may not be doctrinal.
Unauthorized use	The unauthorized use of nuclear weapons by rogue State actors or non-State actors, including of lost, stolen, diverted, or crude nuclear devices.
Accidental use	The use of nuclear weapons by error, for instance due to technical malfunction and related human fallibility

It is important to recognize these types of nuclear risks are not mutually exclusive and were used to focus the conversation regarding what types of risks are being considered.

In the discussion, it was also apparent that there are other ways of distinguishing nuclear risks. For example, one expert noted that nuclear risks can also be classified into two overlapping categories, one from the traditional security perspective and the other from a non-traditional security perspective. The former would focus more on the relationship among the P5 States – whose relations are currently deteriorating. The latter would focus more on concerns related to the security of nuclear material and nuclear proliferation by non-State actors. The non-traditional security perspective could be closer to the position of some non-nuclear-weapon States on risk reduction.

One participant noted that the risk of nuclear weapon use arising from inadvertent escalation – in other words, the immediate risk of use in crisis situations – has become a defining risk scenario that many different frameworks have sought to address and reduce, including in the context of the P5 dialogue,⁴ the Stockholm Initiative,⁵ the Non-Proliferation and Disarmament Initiative and the Creating an Environment for Nuclear Disarmament process. Such escalation may be driven by misperception, miscalculation or misunderstanding among nuclear-armed States.

There are several reasons why the risk of inadvertent escalation has received greater attention. First,

4 See for example the statement by China, France, Russian Federation, United Kingdom and United States, “Joint Statement of the Leaders of the Five Nuclear-Weapon States,” U.S. Mission to International Organizations in Geneva, 3 January 2022, <https://geneva.usmission.gov/2022/01/03/p5-statement/>.

5 Working Paper by the Stockholm Initiative, “A Nuclear Risk Reduction Package,” 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, NPT/CONF.2020/WP.9, 14 May 2021, <https://digitallibrary.un.org/record/3931721>.

the focus on inadvertent escalation fits the worldview and narratives of the NWS, whose buy-in is critical to achieving any progress on nuclear risk reduction. The issue is already being addressed in some ways in the P5 process of doctrinal discussions.⁶ Second, addressing the risk of inadvertent escalation can perhaps restore, in the eyes of some, deterrence and strategic stability, without necessarily removing altogether the “threat that leaves something to chance.”⁷

It re-establishes a familiar nuclear order based on doctrines and strategies that allows the upkeep of “strategic ambiguity” while addressing “tactical and operational ambiguity”. Third, inadvertent escalation is most directly affected by the disappearance of arms control treaties and transparency mechanisms and deteriorating relations between the NWS. The collapse of treaties and transparency measures that have previously helped to manage relations and avoid escalation adds pressure to address this type of risk. Fourth, the relational aspect of inadvertent escalation makes it a relatively easy target to address through familiar tools and mechanisms. These include crisis communication channels, military-to-military engagement, notifications and information exchange and, broadly, strategic dialogue. Familiar tools and mechanisms ensure NWS control the circumstances of potential use and could be used in the absence of a restoration of trust and increase of transparency overall. Additionally, these mechanisms do not require tackling broader issues around capabilities, national priorities, strategic context and geopolitical relations. However, the last couple of years have shown the difficulty of untangling broader issues from the risk reduction mechanisms.



Inadvertent escalation has become a defining risk scenario that many different frameworks have sought to address and reduce.

Participants noted that the definition of nuclear risk scenarios would be key in developing any pragmatic measures. However, it was also recognized that risks can be subjective. Indeed frequently, one side perceives nuclear risks as only emanating from the actions of the adversary and believes that if only such a behavior would stop the nuclear risk would disappear. In addition, the perception and approach to nuclear risks is ultimately a political choice. For instance, a very narrow approach could be taken that links nuclear risk to lack of implementation of NPT article VI. But an exclusive focus on nuclear disarmament would miss many other practical nuclear risk reduction measures. Some participants suggested it would be pragmatic for States to accept that there are different definitions of nuclear risk, different perceptions of what main nuclear risks stem from and differing views on how they can be addressed.

Complications further arise with issues of convergence between nuclear and non-nuclear capabilities, which require a broader consideration of mitigation approaches. Such capabilities could include new technologies like cyber and artificial intelligence, but also conventional military capabilities. And when

6 Working paper submitted by China, France, Russian Federation, United Kingdom and United States of America, “Strategic Risk Reduction,” 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, NPT/CONF.2020/WP.33, 7 December 2021, <https://digitallibrary.un.org/record/3951744> ; the P5 process refers to the regular consultations between the five NWS under the NPT: China, France, the Russian Federation, the United Kingdom and the United States.

7 Thomas C. Schelling, “The Threat That Leaves Something to Chance,” RAND Corporation (1959), https://www.rand.org/pubs/historical_documents/HDA1631-1.html.

non-nuclear capabilities are concerned, non-nuclear-weapon States (NNWS), especially those allied with NWS, should be included in the discussion on nuclear risks. If NNWS capabilities could play an enabling role in some aspects of nuclear missions or can threaten the nuclear forces of NWS, the distinction between NWS and NNWS could get blurred.

Finally, recent instances of military conflicts, when only one side has possessed nuclear weapons, highlight the fears that such a conflict could escalate to nuclear level. This could happen as a result of one side's inability to achieve its core security interests by other means, or in response to attacks against its dual-use (conventional and nuclear) systems and infrastructure.

Key Nuclear Risk Challenges Today

During the workshop, participants discussed how, for the first time in a long while, there are increased fears around the intentional use of nuclear weapons in addition to long-standing concerns over the inadvertent use of these weapons. This in part stems from the lack of clarity and transparency of some NWS leaders on their conditions of nuclear use against the backdrop of military conflicts with participation of other NWS. With a surge in conversations on scenarios in which nuclear weapons are used intentionally or in an escalatory manner, participants expressed concern that current generation of politicians has “forgotten” what nuclear weapons are and their catastrophic potential. Indeed, some participants indicated concern that nuclear weapons will start being perceived as practical weapons, rather than a weapon of last resort for use in only the most extreme circumstances. To this end, one expert noted the need to further educate officials as well as the general public that nuclear weapons are not tools of war, and their devastating effects mean their use is never justifiable.



For the first time in a long while, there are increased fears around the intentional use of nuclear weapons.

Moreover, there is a risk of nuclear deterrence no longer being perceived as only serving defensive purposes, but also as a tool in the strategic toolbox to enable more aggressive actions. Recent developments have raised questions about the limits of deterrence and how far ambiguity associated with nuclear policy can go.

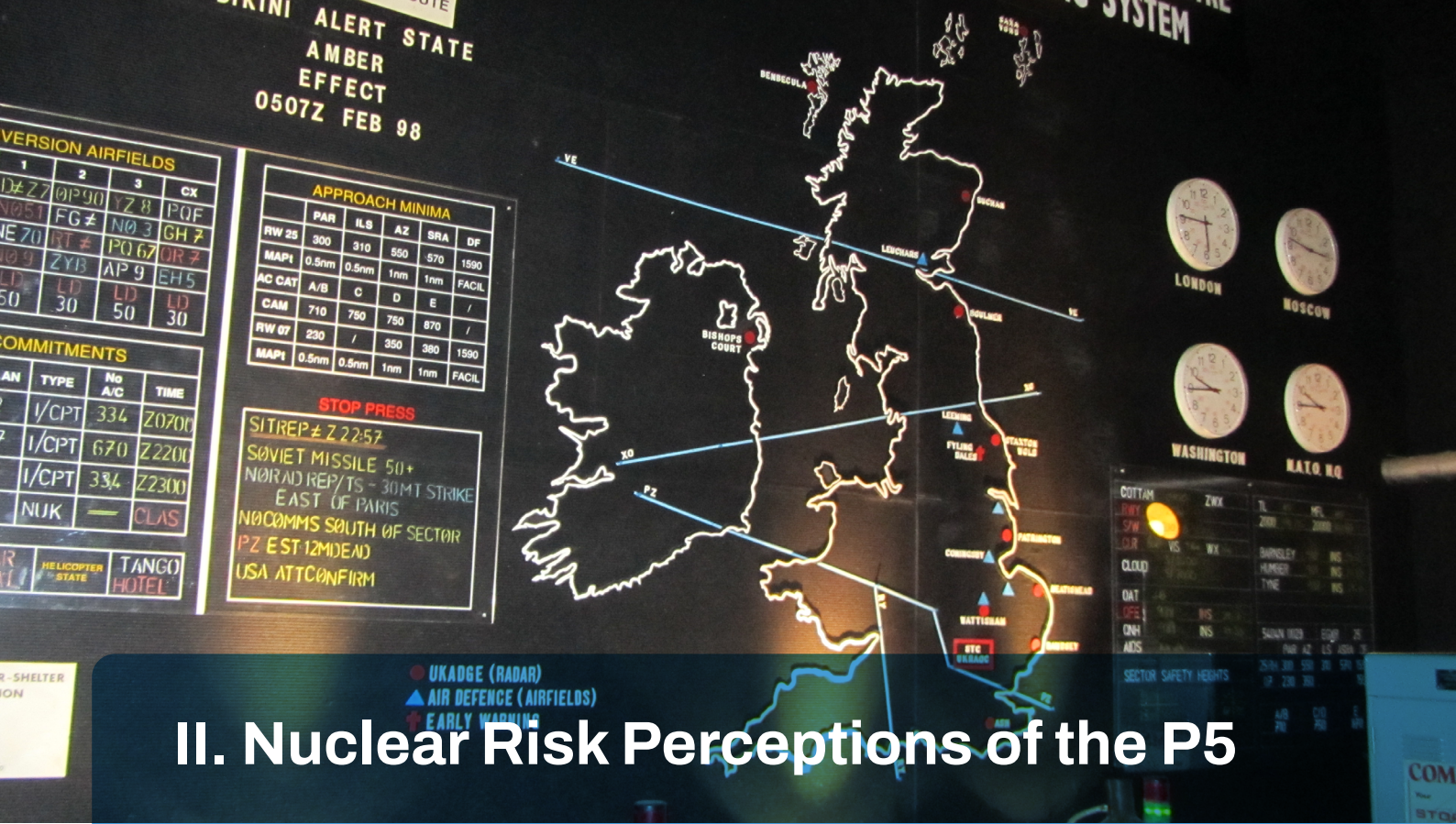
Some experts noted that deteriorating inter-State relations are driving the risk of a nuclear war rather than any changes to nuclear weapon policies. In this context, NWS are faced with two main questions where perhaps some change can be detected. The first question relates to how a State can evaluate nuclear risk in relation to the risk of making certain security concessions. Some of the participants suggested that this cost-benefit equation – between the use of nuclear weapons and security compromises – seems to be changing, to the extent that some NWS may be willing to trade in a greater risk to benefit certain national security interests.

The second question considers how a State can assess the conditions for its use of nuclear weapons. This question gets into the interplay between perceptions NWS have of their adversaries' nature, tendency to threaten the use of nuclear weapons and indeed willingness to employ nuclear weapons. In this regard

it was noted that different States have different narratives pertaining to each other. These narratives – for example, “hegemon trying to preserve its dominance through any means” or “revisionist powers planning to destroy the rules based international order” – taint calculations of nuclear risk and could increase the likelihood of miscalculation.

Another aspect to consider regarding nuclear risk and political relations raised by participants was that some nuclear-armed States increasingly reject the compartmentalization of nuclear and broader political factors. These States would prefer the nuclear and political dimensions to be linked, and refuse to engage in nuclear arms control, risk reduction and disarmament talks until the broader military, political and strategic issues are addressed. There remains the question of what balance should be struck between the political and technological discussions of nuclear risk, and to which extent one is possible without the other.

Participants also noted that cooperation in reducing one nuclear risk can lead to cooperation in other areas, especially as these risks are interlinked. States could cooperatively establish pragmatic measures to reduce the risk of inadvertent escalation, such as continuous means of communication, without sacrificing their own strategic ambiguity. Preserving communication between States is a measure relevant to other categories of risk. Unfortunately, over the past decades there seems to be a downward spiral in such cooperative measures. Indeed, one participant noted that it seems that the feeling of a shared responsibility of the P5 to reduce nuclear risks is ebbing away with deteriorating relations and increasing mistrust among States.



II. Nuclear Risk Perceptions of the P5

© Ballistic Missile Early Warning System (BMEWS) equipment at the Hack Green Secret Nuclear Bunker.

Risk perceptions of individual P5 States as well as interactions between the risk perceptions of different States are among the most crucial variables directly impacting nuclear risk. While other factors are also important, in the end they are boiled down to or seen through the lens of subjective perceptions of the State's leadership. These perceptions will play an important role in determining the actions that States could take. Over the course of the workshop experts from the P5 States provided an overview of their respective State's nuclear risk perceptions. These views should not necessarily be understood as official or formal policies and practices. Rather, they are the expert participants' attempts to describe to describe particular ways of thinking about nuclear risks in all their complexity.

Perspectives from the UK Experts

Participants from the United Kingdom suggested that London saw nuclear weapons playing the following roles:

- Hedging against uncertainty
- Assuring independence of action
- Elevating British prestige, and
- Securing the United States' role in the defense of Europe.

Expanding on the latter point, the UK experts suggested that the ability to escalate a conflict either vertically or horizontally, with nuclear or other capabilities, draws in a protector and offers an extra layer of protection. While the context in which the United Kingdom first acquired its nuclear weapons in the 1950s has dramatically changed – including domestically in the political and military context – overall these four elements remain.

Nonetheless, there has been some evolution in the British posture. It was suggested that for several decades following the assimilation of nuclear weapons into the British arsenal in the early 1950s, nuclear weapons were perceived as another weapon of war. However, in the 1990s, with the Cold War over, UK nuclear weapons were no longer necessary on the battlefield and the concept of them having a potential “sub-strategic role” within a conflict was retired. This led Tony Blair’s government to limit the British nuclear arsenal to one system – the Trident sea-launched ballistic missile. The experts stressed that the United Kingdom, as may be the case with other NWS, tends to operate through the “bureaucratization of policy” in the way it views nuclear weapons. In other words, there is a tendency for a stated policy to become the rationale for that policy. Following the 1997 Strategic Defence Review, this trend towards bureaucratization policy meant that the notion there was no such thing as a sub-strategic weapon became embedded in the culture.

The speakers indicated that more recently, election of President Trump in the United States in 2016, the United Kingdom’s nuclear weapons posture evolved again as the prevailing tenor and thought on the utility of nuclear weapons in conflict broadened. The language British officials used about nuclear weapons reflected, with a certain delay, the language US officials used in their discussions of adversarial use of nuclear weapons and the US response. The close alignment of the United Kingdom to the United States is due to one of the above-mentioned priorities, namely, to link to Washington’s role in the defense of Europe, as well as for London to achieve policy goals that go beyond nuclear weapons issues. It was noted that there have been changes in some circles on the United Kingdom’s quite bureaucratic and fixed “post hoc rationalization” view of nuclear weapons. This is due to the changing international environment which has brought about greater recognition within the United Kingdom policy community that it may need to have a bit more “original thought”.



There is a tendency for a stated policy to become the rationale for that policy.

The experts suggested that publicly the United Kingdom is very ambiguous about the scenarios in which it would use nuclear weapons. The utility of nuclear capabilities solely for defensive purposes – sidelining whether it is in retaliation to nuclear use or not – has been a consistent British policy. The United Kingdom does not have a no-first-use policy, and is unlikely to support one, given that many in the community do not believe a no-first-use policy to be a credible position. The British nuclear chain of command goes all the way to the Prime Minister. Each new Prime Minister writes “letters of last resort” to be opened if the British Government were to be destroyed by an enemy nuclear strike. These letters detail what action should be taken in such an event, and, while the content of these letters has never been divulged, it was suggested there is a very conscious feeling of high “moral weight” of the decision to launch a nuclear weapon.

In the experts’ presentations, it was suggested that the United Kingdom is concerned by several scenarios involving doctrinal, escalatory, unauthorized, and accidental nuclear use. In relation to doctrinal scenarios, two primary concerns were identified related to the intersection of doctrines and the credibility of stated or published doctrines. First, there is concern that in the future it might not be possible to keep different regional security contexts (for example, India–Pakistan or Russia–Europe) separated.



The United Kingdom does not have a no-first-use policy, and is unlikely to support one, given that many in the community do not believe a no-first-use policy to be a credible position.

Due to this overlap, nuclear doctrines will become more interconnected and the whole system more complicated. Regarding the credibility of a doctrine, the United Kingdom has more trust in doctrines which are consistent with the actions and exercises of a State. This does not imply that the United Kingdom would entirely disregard doctrines that appear “inconsistent”, but that the United Kingdom believes that under changed circumstances elements of a stated doctrine may not stand. It was suggested that, for example, China may not

necessarily be able to stick to its declared no-first-use policy. Second, the speakers suggested that nuclear escalation is embedded into doctrines, and significant risks could emerge should a State drift from its stipulated declaratory policy.

The main unauthorized use concern identified by the UK experts was that the cooperation built among the P5 to address issues such as nuclear proliferation and issues of forensics had fallen apart, beginning with the Russian Federation’s invasion of Crimea in 2014. Risks of accidental use were mainly related to the co-deployment of nuclear and conventional systems or dual capability. In the UK context, there are so many intersections between nuclear and non-nuclear capabilities that decoupling the two does not make sense.

Another issue concerning the United Kingdom is the utility of signaling. With the British deterrence structure, there is very little nuclear signaling that can be done using the weapon systems themselves. The United Kingdom can signal by way of statements, support for the North Atlantic Treaty Organization (NATO) and deployment of force protection measures that may be perceived as protecting nuclear submarines. But overall, the prevailing view is that nuclear signaling is much less reliable than often envisioned by experts and officials.

Perspectives from Russian Experts

Russian experts described three main nuclear risks from the Moscow’s point of view. One pertained to the risks of a massive disarming counterforce strike against Russian nuclear forces leaving it without retaliatory capability. While existing arms control measures, such as the strategic arms reduction treaties (START), substantially reduce the viability of a nuclear disarming strike – which in turn also strengthens strategic stability – the risk remains. Moreover, an increased risk arises from an integrated counterforce strike, in other words, the simultaneous use of nuclear and conventional weapons. Some more radical Russian analysts have previously raised concerns about a scenario of conventional-only disarming strike against Russian silos and command and control centers conducted by the United States with cruise missiles and hypersonic weapons. But overall, a potential model of conflict between the Russian Federation and NATO members would include a mix of capabilities. Thus, there is broad recognition that, as integrated counterforce strikes threaten strategic stability, arms control agreements should not be restricted only to the nuclear domain. If a first nuclear use occurs, the parties will find themselves in a space where there are very few rules left, so it will be hard to predict which of the multiple possible scenarios would materialize.

A second risk is the potential for an uncontrollable nuclear escalation from a limited nuclear exchange to the point of politically and socially unacceptable damage or even an all-out strategic nuclear war. The experts suggested there is a high risk of misperceptions and miscalculations in such situations. The risk is further heightened by modern nuclear strategies and postures that have a distinct inclination towards limited nuclear options, including the idea of individual nuclear strikes for signaling purposes. It was suggested that, while using a single nuclear strike may be advocated for various reasons – including for upholding the credibility of deterrence, using sophisticated escalation dominance to avoid a massive nuclear exchange or even “restoration of strategic stability” – it also has been called a tool of nuclear coercion, risk manipulation and part of the infamous “escalate-to-deescalate” strategy.



There is broad recognition that as integrated counterforce strike threatens strategic stability, arms control agreements should not only be restricted to the nuclear domain.

A third main risk emanated from the proliferation of nuclear materials, technology, and devices as well as from the challenges to the security of nuclear facilities. Although nuclear terrorism has been overshadowed by the threat of nuclear war in the international nuclear risk reduction discussions, nuclear terrorism remains a significant concern. Moreover, from a Russian perspective, the dangers of non-State actors pursuing nuclear capabilities have only intensified. This is coupled with growing concerns over the security of nuclear facilities that have increased in parallel with growing interest in nuclear energy and peaceful nuclear research in certain regions, some of which are plagued with military conflicts. The risks of nuclear proliferation are further stimulated by increasing feelings of insecurity, growing global turmoil and the perceived dysfunctionality of traditional global security institutions.

The speakers indicated that these nuclear risks can be reduced in several ways. On the multilateral end, the Russian experts assessed that Moscow firmly believes it is necessary to strengthen the NPT through the collective efforts of NWS and NNWS. Bilaterally and, perhaps more conveniently, through the P5 context, NWS should try to address threats coming from States and non-State actors jointly, as all the above-mentioned risks pose a threat to each of the NWS. Ultimately, reducing nuclear risks inherently involves ceasing acute confrontation, strengthening the national security of all parties involved and tackling the root causes of fundamental security disagreements between nuclear powers with acknowledgment of each other’s core interests and security concerns. This in turn would enable parallel engagement on effective and sustainable arms control, non-proliferation and risk reduction measures.

However, these acute threats could also be addressed through military means. The fear of a possible first disarming strike could lead to the advent of launch-on-warning postures, whereas the perceived inferiority and vulnerability of second-strike forces could incentivize a vertical and horizontal nuclear arms race.

Perspectives from French Experts

French experts suggested that from the perspective of Paris, the most important strategic risk was the one of deliberate escalation based on misperception. It was suggested that there are two key issues

heightening nuclear risks, namely the erosion of norms and the fragile state of strategic stability. A risk of the “erosion of the notion of restraint”, which has been a crucial component of past measures to create a stable deterrence, was also mentioned. The current context is complicated by the fact that some parties might be more willing to escalate, thus there may be an increased number of crises. In addition, France views the Russian Federation’s nuclear rhetoric and signaling around Ukraine as “risk manipulation” whereby it is using deterrence in an offensive manner. France and other States consider deterrence as solely serving defensive purposes and not as a tool of coercion. Some experts noted that while the Russian Federation’s nuclear rhetoric is indeed concerning, Moscow is currently abstaining from changing the operational status of its nuclear forces, which perhaps means norms can be built around the existing status of forces. Nonetheless, there is an overall risk of erosion of norms among the P5 and the degradation of the P5’s common responsibility resulting from a wider increase in mistrust and the weaponization of the broader nuclear domain, including regarding nuclear power plants in the war zones. The speakers suggested that this, in turn, adds to a sense of a lack of accountability and of a crumbling security architecture. It also raises questions about what minimal norms remain even within the context of the NPT and the existing taboo against the use of nuclear weapons. There is also concern of a lack of a common strategic and nuclear culture, whereby not all States share the same understandings.

The experts also suggested that nuclear risks further stem from nuclear proliferation, as is the case with the Democratic People’s Republic of Korea and the Islamic Republic of Iran. In the current geopolitical context, it has become strategically difficult for the P5 to cooperate and deal with these challenges. Another challenge emanates from the strategic competition between the United States and China which has implications for the nuclear dimension.

Participants discussed several characteristics of the French nuclear posture. It was noted that France, unlike other P5 States, has a policy that includes the possibility of issuing a “final warning” through a non-strategic air-launched nuclear strike. This decision would be made by the French president, based on the assessment that French vital interests are threatened. It was also recalled that France, like others, uses ambiguity as a useful component of deterrence rather than setting a firm red line that an adversary could potentially circumvent.

Although French nuclear deterrence first and foremost protects France’s vital interests, the latter have been said to have a European dimension given the geography and growing European integration and solidarity. This solidarity is put under stress by the invasion of Ukraine and is coupled with a degradation of the security architecture. The destruction of various instruments – including the Intermediate-Range Nuclear Forces Treaty, which did not include European States but directly affected European territory – feeds into the sense of degradation of Europe’s security architecture. France sees the importance of – and interest in – creating a new European order, though it is difficult to envision this concept with the current trend of norm erosion and fragility of strategic stability. It was suggested that France is likely re-evaluating whether the Russian Federation will rely more on its nuclear weapons after the war in Ukraine and whether its commitments to arms control agreements could be trusted again given its track record of violations. Moreover, it was argued that France cannot tolerate a security environment in which aggression is accepted and there are no tools to ensure it will not happen again. Other challenges to the security architecture as perceived by France stem from growing solidarity between certain NWS, including the relatively new alliance emerging between the Russian Federation and China.

The French experts indicated that a credible policy of deterrence is necessary and will continue to discourage the use of nuclear weapons and the war itself, though it should be complemented with



This raises questions about what minimal norms remain even within the context of the NPT and the existing taboo against the use of nuclear weapons.

strategic risk reduction measures. Continued engagement among the P5 is important for each to have mutual understanding of the other's doctrines and arsenals. Other risk reduction measures could include maintaining communication channels and establishing notification agreements to reduce the possibility for misperception. Though points were raised on whether the communication channels are still as useful with the current deterioration of relations and that discussions on the value of strategic hotlines may feel abstract and missing the agency of decision makers. In addition,

there are unilateral measures NWS can undertake to reduce risks, for instance by promoting restraint and reflecting on the minimal practices required for nuclear deterrence. Another measure is the provision of negative security assurances, with the inclusion of binding protocols. French experts also touched on the utility of nuclear signaling, stating that effective signaling is difficult because it requires tailoring it to different audiences and taking into consideration different nuclear cultures.

Perspectives from Chinese Experts

Chinese experts suggested there are four main nuclear risks from the Chinese perspective. The first emanates from potential escalation of conflict between the NWS. Even with the continuance of the nuclear taboo, the possibility of escalation remains. Indeed, one participant noted that the situation in Ukraine triggers memories from the Cold War on how a conventional war can lead to the escalatory use of nuclear weapons.

The second risk pertains to the potential for misunderstanding and miscalculation which could lead to the intentional or inadvertent use of nuclear weapons. Moreover, misperceptions could lead to proliferation. For example, there is such a risk in the context of the Democratic People's Republic of Korea conducting tests and successful launches of intercontinental ballistic missiles while the Republic of Korea is increasing its cooperation and strengthening its alliance with the United States. As tests increase, collaboration deepens, and tensions escalate, there is an elevated risk of radical actions.

A third risk concerns a "new wave of nuclear proliferation" and a "sense of a grey zone of proliferation", as in the case of the trilateral security partnership between Australia, the United Kingdom, and the United States. This relatively new partnership has gained significant attention considering the security arrangement includes nuclear-powered submarines, from a Chinese perspective this has raised questions around Australia's intentions.

The fourth risk stems from specific leaders not perceiving the use of nuclear weapons as irrational, which opens an avenue for potential aggression. When a major power is sending mixed signals, it is neither responsible nor conducive to reducing nuclear risks.

In the discussion around a Chinese perspective, participants noted several perceptions of the United

States' policies and actions that have knock-on effects on the Chinese nuclear posture. It was suggested that there is a security dilemma between China and the United States where a cycle of insecurities is driving the two States to employ more security measures that only increase further threat perceptions. One Chinese concern arises from the United States' nuclear weapons modernization process, which is perceived as making the Chinese program obsolete. As a consequence, China is faced with an internal drive to modernize its own arsenal, which may then be perceived by the West – due to a lack of transparency – as a risk. A second concern derives from the United States' policy on - and promises to - Taiwan, Province of China. The US “Taiwan Policy Act”⁸ which passed the US Senate but ultimately did not become a law, and similar legislative measures are intertwined with Chinese nuclear weapons budget justifications. While there is perceived high risk around the United States' policy in the region, the Chinese expert expressed doubt that the United States would jeopardize its own safety for Taiwan, Province of China, even with conventional assistance. This situation however still fuels the development of Chinese military capabilities.

In addition, the Chinese arms control community overall has a pessimistic view of President Biden's role in US nuclear doctrine. Originally, given Biden's past as the Vice President in the Obama administration, some Chinese experts believed that once in power he would alter US nuclear doctrine to a certain extent – for instance by increasing the threshold of nuclear use. This expectation was not been met. This is perhaps because the conventional gap between China and the United States has shrunk and, therefore the nuclear option may seem more viable for the United States than before. Ultimately, these perceptions drive nuclear risks higher, rather than reduce them. It was noted that a strategic stability channel between China and the United States does indeed exist, even if it is not a high-level military-to-military channel. This demonstrates that there are avenues and possibilities to try to reduce risks that characterize the security dilemma between China and the United States.

China additionally has concerns pertaining to India and Pakistan, though even in the case of a conflict between the two, experts expressed doubts as to whether Chinese nuclear weapons would be used in escalation given the established communication channels.

Perspectives from the US Experts

Presentations from the US experts suggested that the country's expert community had divergent views on nuclear risks. However, one key issue shared among the national strategic establishment was the credibility of US signaling. There were concerns that US adversaries could see its weapons capabilities or



There is a security dilemma between China and the United States where a cycle of insecurities is driving the two States to employ more security measures that only increase threat perceptions of one another.

8 See for example United States, “Taiwan Policy Act of 2022,” Congress.gov, S.4428, 15 September 2022, <https://www.congress.gov/bill/117th-congress/senate-bill/4428/text/rs>.

resolve to employ nuclear weapons as insufficient for deterrence. US experts also think that Washington, Moscow and Beijing are behaving in political and military sphere without due consideration of the others' reactions and as if they have forgotten that security dilemmas exist.

With regards to capabilities, the US experts noted the calls from the expert community and legislators to go beyond the ongoing nuclear modernization, which was planned in 2010, when the state of world affairs seemed less dire.

In terms of resolve,, the Russian Federation and China could misinterpret US willingness to use nuclear weapons to protect its allies and partners. Moscow could believe that its nuclear arsenal would deter the United States from responding and decide to use a small number of nuclear weapons to scare NATO into stopping its support to Ukraine. China and the United States face several zones of potential conflict (most acutely over Taiwan, Province of China). Beijing's belief that the United States will not sacrifice itself for others (regardless of whether this is true or not) may lead China to pursue actions that then could trigger a US response. Indeed, experts suggested that the United States is less concerned over large-scale counterforce attacks than about limited attacks that its adversaries might initiate with deterring or de-escalating purpose, but which could actually lead to further escalation.

Participants noted the US concern that several crises could escalate to outright conflict with heightened risk of nuclear weapons use. This is particularly worrying in areas where vital interests are perceived to be threatened. For example, with the Russian Federation – other than the current crisis ongoing in Ukraine – some developments involving NATO, such as military conflict between Moscow and Baltic States, could be very dangerous. In addition, experts identified concerns over the possibility of an escalatory cycle in the Korean peninsula that draws in the United States. Any military conflict between the United States and the Democratic People's Republic of Korea would put pressure on the latter to “use it or lose it” and ignite the talk and fear of invasion. Both factors would increase the likelihood of nuclear use. In the India–Pakistan case, potential for escalation between the two remains, and both face serious problems with terrorism.



The United States is less concerned over large-scale counterforce attacks than about limited attacks that its adversaries might initiate with deterring or de-escalating purpose, but which could actually lead to further escalation.

The war in Ukraine and the behavior of the Democratic People's Republic of Korea have led to skepticism in the United States about “putting too many eggs in the norms basket”. There is an open question about how much value there is in norms routinely violated by adversaries. This perception additionally raises difficulties when considering arms control of emerging technologies, where discussions focus more on the rules and norms than on verifiable limits. Nonetheless, some of the norms, such as the norm of nuclear non-use, were indispensable, warranting full support.

It was also suggested that one way of reducing nuclear risks is for States to have other non-nuclear capabilities to protect themselves. By increasing non-nuclear options, the scenarios in which nuclear weapons could be used are reduced.



III. Interplay of Nuclear Risk Perceptions

© A U.S. Air Force F-15C Eagle aircraft, top, from the 12th Fighter Squadron, Elmendorf Air Force Base, intercepts a Russian Tu-95 Bear bomber Sept. 28, 2006, during a Russian military exercise near the western coast of Alaska. DoD photo courtesy of U.S.

Over the course of the workshop, participants discussed what each of the P5 States might offer others to reduce nuclear risks. In the discussion, experts noted that it is important for the P5 to put their demands on the table and start a conversation with the understanding that it will include trade-offs.

Ident missing before the paragraph exercising of restraint and increasing transparency were identified as two key concepts in reducing nuclear risks. However, there are different ways in which the P5 can encourage and demonstrate restraint, from reducing the role of military force in security strategies to limiting the acquisition of new weapons. Regretably, current trends may appear in opposition to exercising restraint. Issues of restraint and transparency are closely tied with the current trust deficit among the P5 States. It is important for the P5 to be prepared to listen to legitimate concerns, engage and negotiate not only with like-minded States but with adversaries.

The West–Russian Federation

One expert noted that the biggest nuclear risk reduction measure would be an improvement in military-political relations. In the context of the Russian Federation and the West, this would mean an end to the war in Ukraine and lasting resolution of the crisis. Several western experts noted the Russian proposal from December 2021, namely the “Agreement on measures to ensure the security of the Russian Federation and member States of the North Atlantic Treaty



The exercising of restraint and increasing transparency were identified as two key concepts in reducing nuclear risks.

Organization”,⁹ was unproductive. A prevailing perception among NATO members is that the Russian Federation was demanding “everything”, without in turn demonstrating constraint nor seemingly taking



Discussions focused on “deeper predictability” rather than around “transparency” might be of bigger interest for Russia and China.

the security of NATO and Ukraine into account. Additionally, one expert noted that some of the Russian actions perceived as escalatory could be a means of trying to establish an upper hand in preparing the ground for negotiations. One example was the Russian deployment of nuclear weapons in Belarus, which some considered as a bargaining chip that could be traded away in future negotiations on the matter. While others suggested taking this action – and other Russian actions – as described by Moscow.

In case of deployment to Belarus – to get on par with the US and deter all those who aim at “strategic defeat” of Russia.

Before the war in Ukraine, there were discussions around a new US–Russian arms control treaty under the Strategic Security Dialogue. However, the successful conclusion of that process is currently neither very likely nor an immediate priority. At the same time, keeping channels of communication on nuclear weapons open between the Russian Federation and the United States and between the Russian Federation and NATO should be a priority, although even this goal has become increasingly ambitious as relations have deteriorated. The West would like the Russian Federation to articulate the circumstances under which it would be willing to offer long-standing restraint in its military actions. It was noted that while communicating restraint is not easy, there are ways to do it. For example, the fact that the Russian Federation hasn’t deployed its non-strategic nuclear weapons thus far in the war was seen as a successful signaling, and the message was received in the West. On NATO’s end, an informal channel between itself and the Russian Federation could be valuable in dispersing any Russian misperceptions over the Baltic Sea and other issues that may alter its calculations, especially now that Finland and Sweden have joined NATO.

As one of the experts mentioned, while New START was not being implemented in full by both sides, the Russian Federation and the United States have promised to abide to the numerical limits of the treaty, at least until its expiration in 2026. Sticking to those commitments – as well as to the P5 Joint Statement on Preventing Nuclear War and Avoiding Arms Races – and building on them should be a priority.

Some experts suggested that transparency measures including data exchanges could be used to alleviate the fears of a first disarming strike. This was countered by the argument that a successful disarming strike would require an operation of such a scale that preparations for it would be impossible to

9 Ministry of Foreign Affairs of the Russian Federation, “Agreement on measures to ensure the security of The Russian Federation and member States of the North Atlantic Treaty Organization,” 17 December 2021, https://mid.ru/ru/foreign_policy/rso/nato/1790803/?lang=en.

miss with current technological capabilities. It was also suggested that discussions focused on “deeper predictability” rather than on “transparency” might be of greater interest for the Russian Federation and China.

The United States–China

For the time being, neither China nor the United States seem particularly engaged in ensuring that the risks and threat perceptions of the other are ameliorated. Indeed, during the discussion one Chinese expert noted that China should increase its nuclear arsenal until it believes its threat is convincing. On the other side, a US expert noted that it would be difficult to proceed with any further nuclear arms negotiations between the United States and the Russian Federation the Chinese forces are perceived to be completely unconstrained and are characterized by a lack of transparency. These two approaches seem to encourage worst-case scenario planning rather than any sort of cooperation, crisis prevention or even laying the groundwork for crisis management. It was suggested the United States does not appreciate Chinese concerns about the possibility of a US limited nuclear first strike, and China does not appreciate the United States’ concerns over its alleged arsenal increase and technological developments like fractional orbital bombardment systems.

A Chinese expert noted that it would be useful for the United States to address inconsistencies in its own doctrine and a lack of clarity on its targeting policy. It was indicated that this could reduce misperceptions or misunderstandings in China and the Russian Federation. The fears driving Chinese and Russian policies and decision-making only increase as a result of these misperceptions. For example, in the past Chinese experts have mistakenly believed that the United States had a program of conventional intercontinental ballistic missiles (which never materialized) and planned to put nuclear warheads on its hypersonic weapons (which has not been the case so far) suggesting potential for a pre-emptive first strike. Even if China accepted that the United States does not currently have the capacity to implement a first strike, it has a strong suspicion that the United States may have an interest in pursuing such a capability. And even if the United States alters its nuclear doctrine, it would have a hard time demonstrating that and convincing China of the case.

Participants further discussed how the policies undertaken by China in response to concerns over the United States risk fueling further misinterpretations on the part of the United States. The United States lacks the capacity to comprehensively track Chinese policy interpretations, thus it cannot develop a comprehensive strategy to clarify the implications of the statements that trigger responses from Beijing. Moreover, the United States has not held internal discussions about what deters China to the same extent as it has about the Russian Federation, which to a certain extent leaves it “flying blind”.

It was also suggested the United States could be more open to some ideas for nuclear risk reduction favored by its adversaries. This could be a more realistic way to open a two-way conversation. One example would be discussing non-first use of nuclear weapons and how to increase the credibility of this concept, a topic China is particularly interested in. Such a discussion could be phrased in different ways so that it is acceptable to both parties, including framing it around sole purpose or credibility. A discussion

around non-first use could also take place under the auspices of the P5 dialogue. A French expert noted that the term “sole purpose” would be detrimental to French strategy and might actually increase nuclear risks, although more discussion and transparency from China would be welcomed.

One US expert noted that it seems the biggest fear from China and the Russian Federation is about the United States launching a massive counterforce strike, rather than just using nuclear weapons first. A compromise the United States could perhaps offer is to rule out disarming strikes against China and the Russian Federation and announce that the only use of nuclear weapons would be for the protection of its own survival and that of its treaty allies. This approach was countered by a Russian expert who warned that there is need to explore what is specifically meant by removing the threat of counterforce strike.



One question the Chinese officials could deliberate on when composing such a paper is what China’s posture and exercises would look like without the non-first use policy.

As for what China could realistically provide, experts noted that a descriptive paper on China’s policy of non-first use and the measures it has taken to assure such a policy would be beneficial to the other P5 States. One question that Chinese officials could consider when composing such a paper is what China’s posture and exercises would look like without the non-first use policy. However, one Chinese expert noted that it is important that the P5, and in particular the United States, display patience when asking China to “demonstrate” its policy, or progress is unlikely to be achieved.

In addition, one US expert noted that China could offer transparency through several unliteral measures, including through the development of a 10-year plan detailing various caps it anticipates putting in place to limit the number of weapons unless there were a major change of circumstances. Another useful nuclear risk reduction measure could be the physical separation of nuclear and conventional launch sites. Finally, China could join the commitment not to test direct-ascent anti-satellite systems.



IV. Common Nuclear Risk Perceptions

© Secretary of Defense Lloyd J. Austin III meets with Peoples Republic of China Minister of Defense, Adm. Dong Jun in Singapore, May 31, 2024.

The P5 and a Common Risks Agenda

Within the P5 context, there are several avenues to explore when looking to create a common risks agenda for NWS to address. Many of these commonalities were reflected in the 2022 NPT Review Conference Draft Final Document, which noted that States Parties “commit to making every effort to ensure that nuclear weapons are never used again”.¹⁰ Commonalities among the P5 States are also evident in other forums like the Group of 20 – the November 2022 Bali Summit declaration observed that “the use or threat of use of nuclear weapons is inadmissible”.¹¹ Such widespread support for working towards the non-use of nuclear weapons could provide a constructive starting point for further discussion. One expert added that it would be useful to have a P5 declaration showing what collective steps they are taking to be responsible custodians of nuclear weapons.

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When working towards reducing the likelihood of use of nuclear weapons, the P5 States have different priorities that could complicate the creation of a common agenda.

However, when working towards reducing the likelihood of use of nuclear weapons, the P5 States have different priorities that could complicate the creation of a common agenda. For example, in a doctrinal

10 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, “Draft Final Document,” 25 August 2022, <https://app.unidir.org/sites/default/files/2023-08/2020NPTRevConDraft.pdf>.

11 Leaders of the G20, “G20 Bali Leaders’ Declaration,” The White House, 15–16 November 2022, <https://www.whitehouse.gov/briefing-room/statements-releases/2022/11/16/g20-bali-leaders-declaration/>.

discussion, the P5 would have to reconcile two main approaches. The first focuses on how to prevent the first use of nuclear weapons, which is generally China's and Russia's preference, while the second approach focuses on how to manage escalation at every stage, which tends to be the preference of the United States and NATO. One British expert noted that identifying a common nuclear risks agenda seems more like a discussion to be carried by China, the Russian Federation, and the United States rather than P5.

Cooperation on a common agenda could perhaps be more easily found on third-party issues. Focusing on the P5's common concerns regarding the situation around the Democratic People's Republic of Korea and tactical nuclear weapons on the Korean Peninsula may facilitate greater coordination and permit some progress. Additionally, in the near term, the P5 can address "risk manipulation", in other words, the use of nuclear threats for coercive benefits. A discussion around rules and international norms for nuclear behavior during conventional conflict can substantially decrease risks (for example potential norm could include not testing nuclear systems or conducting nuclear exercises during such a conflict). Moreover, such conversations could hopefully revitalize the value of norms at a time of a loss of a common view on existential topics and of an erosion of tools and norms.

In the P5 context, experts raised several other questions, including whether emerging technology would be a good topic to try to address or if it was too ambitious and untimely, and whether the title "nuclear risk reduction", which is deemed problematic for some, should be replaced with an alternative label such as the "prevention of nuclear war" or "the prevention of nuclear use" to receive broader support.

Other Common Risk Issues and Opportunities

One expert noted that a common risks agenda could perhaps be structured into three parts: the first on global security issues (relevant to all States); the second on national interests and regional concerns (for example, on the United States security assurances in Europe and Asia); and the third on issues of common good (which are currently on hold due to the wider geostrategic tensions and competition). On the latter, it was proposed there should be continuity of international initiatives, including efforts highlighting the humanitarian consequences of nuclear weapons.

It was mentioned that there should be a common concern over the lack of interest in and, on occasion, the absence of understanding by practitioners, the public and the next generation on nuclear risks. One expert noted that capacity-building and promoting shared awareness of nuclear risk should be a priority. Each State can participate in this by organizing internal in-depth discussion of nuclear risk and risk reduction measures. And even if a frank discussion is more difficult in some of the P5 States, international expert debate between other States will still permeate and impact thinking in the P5 States. Another expert noted that perhaps the lack of knowledge on nuclear weapons and their consequences among the public points towards a

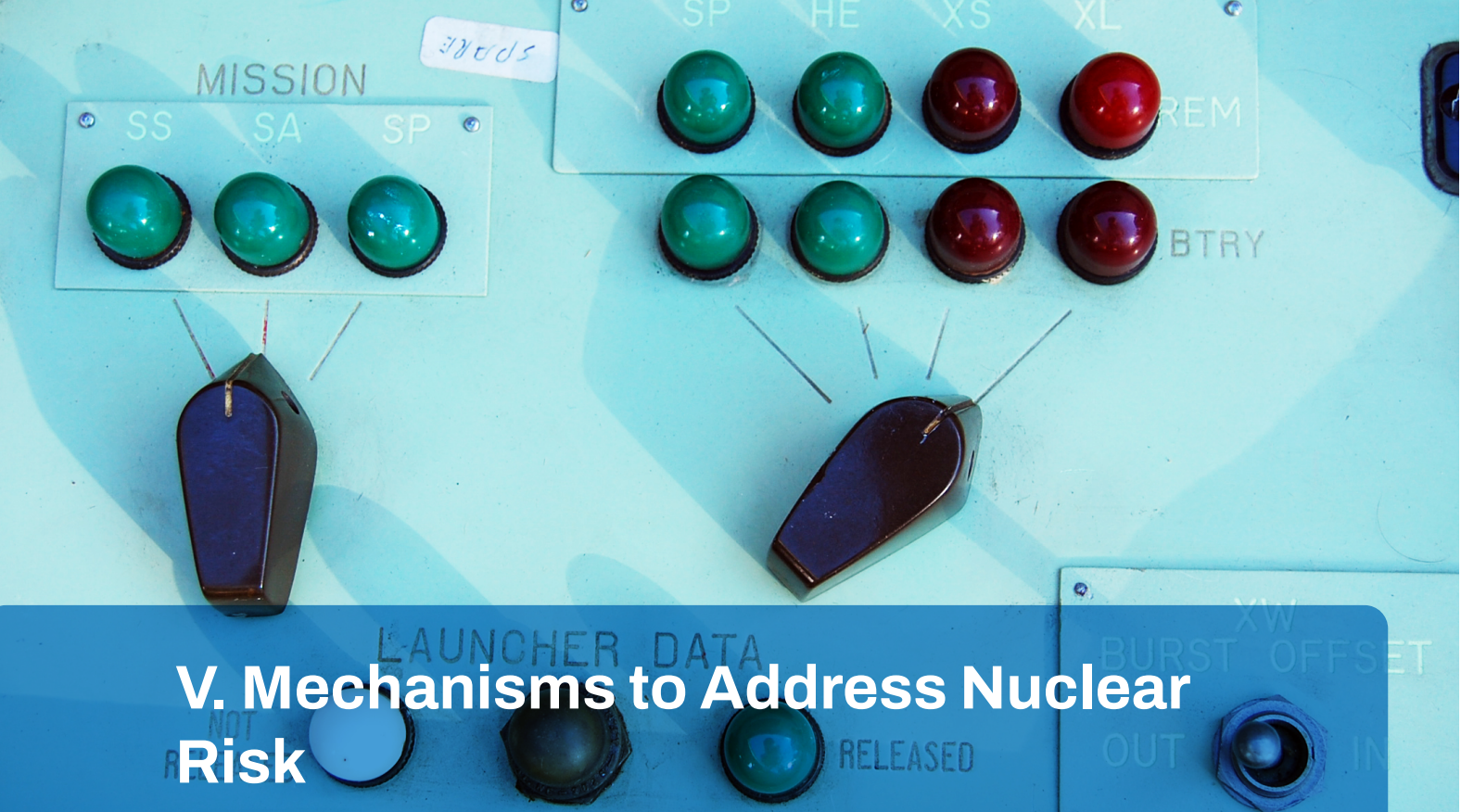


NNWS and their regional groups could both raise greater awareness about nuclear risks and place more international pressure on NWS to reduce such risks.

more positive trend. The disappearance of these issues from public debates may indicate that unlike during the Cold War nuclear weapons are no longer seen as a real threat or essential to security.

One participant further suggested that, even though some NWS seem unwilling to compartmentalize and discuss nuclear risks, there is perhaps space for a broader engagement with NNWS. This is especially important as there is a lack of discussion at the regional and international levels on the potential spillover effects of nuclear use on countries neighboring NWS. Therefore, NNWS and their regional groups could both raise greater awareness about nuclear risks and place more international pressure on NWS to reduce such risks. One expert noted that the list of priorities for nuclear risk reduction is likely to be quite different for NWS and NNWS. But it could be a beneficial exercise for each group of States to identify some of their top priorities, and there are likely to be some synergies that could then be used to kick-off discussions.

Other experts highlighted the need to discuss red lines and the consequences of breaching them and seek to reach consensus on those red lines to avoid escalation.



V. Mechanisms to Address Nuclear Risk

© Nike Missile Select Panel, Todd Lappin, 2008.

Participants identified several risk reduction mechanisms, including the continuation of expert engagements with representation from all the P5 States, doctrinal dialogue, resumption of regular military-to-military contacts, limitations on offensive forces, transparency of arsenals and exercises, engagements with States beyond the P5, and importantly, the conclusion of the war in Ukraine and establishment of a peace process. Agreements like New START, the Intermediate-Range Nuclear Forces Treaty, the Conventional Armed Forces in Europe Treaty, the Vienna Document and the Treaty on Open Skies all contributed further to nuclear risk reduction and should be revived. It was also noted that while concluding agreements can contribute to trust-building, withdrawing from existing treaties can worsen the situation and further sour relations between States.

Participants broadly agreed that effective work on nuclear risk reduction is limited by the current political deadlock. To overcome this deadlock, the P5 must continue and expand dialogue on each other's security concerns, identify priority risks, elaborate on the meaning of the strategic stability and the value of transparency, and consider whether one State's risk assessment changes over regions and domains. One expert noted that formal acknowledgement of mutual vulnerability could have a stabilizing role, but if it was not possible more informal approaches could be considered. Another expert suggested that avoiding using strategic missile test launches for sending political messages could be an example of a welcome restraint.

The intergovernmental agenda should also take advantage of topics where convergence of interests is possible. It could include preventing the disintegration of the NPT, reducing the stress on the Comprehensive Nuclear-Test-Ban Treaty, deepening discussion around doctrines beyond nuclear use, and considering negative security assurances to the NNWS. One expert also suggested a ban on space-based land attack weapons as a possible convergence point.



Participants broadly agreed that effective work on nuclear risks reduction is limited by the current political deadlock.

Another useful mechanism could be joint research endeavors on nuclear security and non-proliferation drawing on the precedent of past initiatives between the United States and the Russian Federation and to a lesser degree with China.¹² Participatory methods of engagement (like nuclear test site visits) could also be beneficial, though one expert noted the circumstances may not be ripe to explore these methods among all of the P5 on the State-to-State level. Other discussed measures included the need to restart the strategic

stability dialogue, to discuss how to rebuild the European order and address the potential of nuclear terrorism. One expert noted that some issues are best dealt with on the regional level, especially when it concerns nuclear risks emanating from limited use, nuclear war, and radiological events.

One expert noted that unilateral actions aimed at restraint and reducing nuclear risk could also have the additional effect of generating awareness in other States and setting a good example that others can follow.

Participants also noted that some measures can also be explored and promoted at the expert level. Among the topics for further research and advocacy were mentioned confidence-building measures and other trust-building mechanisms, the concept of non-offensive defense, application of restraint and non-escalation to doctrines, arms racing and deployments, “freezes” of arsenals, as well as instances of deconfliction (for example Russian-US deconfliction in Syria) and previous historical security arrangements, such as between the United States and the Soviet Union, and China and Japan.

¹² NTI, “The Little Known Success Story of U.S.-China Nuclear Security Cooperation,” 10 January 2020, <https://www.nti.org/analysis/articles/little-known-success-story-us-china-nuclear-security-cooperation/>.



VI. Opportunities for Nuclear Risk Reduction

© P5 Concert, the Symphony Orchestra of the National Ballet of China performed musical selections representing each of the P5 member states, UN Library/Coralie Chappat, Geneva, 2015.

Experts also considered ways forward and considered opportunities to reduce the discussed nuclear risks. It was repeatedly noted that the current state of affairs placed many limits on how ambitious opportunities to reduce nuclear risks can be. Moreover, the lack of trust made it difficult to envisage cooperation in the short term. Nonetheless, participants felt that those dynamics made risk reduction more urgent than ever and there are still opportunities for cooperation around aspects of nuclear risk reduction. As the example of continued emergency response cooperation between the US and Russian Coast Guards to rescue fishermen in the Bering Sea despite difficult relations between the two States showed some engagement was still possible. An equivalent in the nuclear field could be technical talks among the firefighters protecting the nuclear facilities of the NWS in this era of rampant drought and wildfires. Almost two decades ago, when wildfires approached Los Alamos and Arzamas nuclear labs, the United States and the Russian Federation had some very useful discussions about how to maximize the fire protection of nuclear sites.¹³

It was noted that in the context of nuclear risk, the best way to discuss, cooperate and reduce these risks is to stay in each of the P5's comfort zones and focus on "easier" issues. This would for example cover – as was previously mentioned – P5 deliberations on the risk of inadvertent nuclear use. It may also be easier to discuss the risks of nuclear power plants in war zones rather than the security risks of nuclear warheads in storage. Not only are these "easier" discussions useful, but they may also develop into more ambitious places than originally expected. It is worthwhile to look for other "easy" issues to discuss. Some experts suggested that in addition to already mentioned ideas, a shared P5 recognition that the President or Prime Minister needs to be a State's top authority in nuclear decision-making could be possible. And

13 Siegfried S. Hecker and Paul C. White, "The US-Russian Teamwork that Kept Nuclear Weapons Safe," *Bulletin of the Atomic Scientists*, 13 July 2017, <https://thebulletin.org/2017/07/the-us-russian-teamwork-that-kept-nuclear-weapons-safe/>.



Starting with “easier” nuclear risk issues is not only beneficial in itself but may also develop and end into more ambitious places than originally expected.

in case of discussions of the convergence between nuclear weapons and artificial intelligence, further work based on the concept of responsible use of artificial intelligence could be pursued.

One expert stressed that in addition to studying the long-established Nuclear Risk Reduction Centers of the Russian Federation and the United States, the experience of links between China and the Russian Federation was also worth learning from. Other

participants commented that a briefing about risk reduction communication links between China and the Russian Federation would be a useful exercise for the P5.

Additional points were made about the benefits of engagement with the nuclear-armed States outside the NPT. As relations have soured between the West and the Russian Federation and between China and the United States, even expert-level engagements have come under pressure. At the same time the Russian Federation, China and the West have good and developing connections with both India and Pakistan. Engagement with and through them could lead to more sustainable contacts and the wider exchange of ideas. Such interactions could touch nuclear security among other things. Pakistan hosts a national center of excellence on nuclear security certified by the International Atomic Energy Agency,¹⁴ which national centers in the P5+ could engage with to create more dialogue and responsibility around the issue.

Experts also suggested that the work on the P5 glossary of key nuclear terms¹⁵ could be continued and deepened. There are different understandings of what nuclear posture, deterrence, strategic stability, etc. encompass, which could be bridged, or at least certain understandings could be codified.

Some experts noted that while the topics of deterrence failure and the intentional use of nuclear weapons were very politically charged, attempts still should be made to discuss them in either Track 1 or Track 2.

Finally, as was previously mentioned, the P5 States made a series of commitments to restraint and nuclear risk reduction, including avoiding the use or threat of nuclear use. Specifying the commitments that have already been agreed to, making sure they are implemented and building on them would be a good place to start the common work on reducing nuclear risks.

14 IAEA, “Pakistan’s National Centre of Excellence Contributes to Sustaining Nuclear Security,” 18 January 2017, <https://www.iaea.org/newscenter/news/pakistans-national-centre-of-excellence-contributes-to-sustaining-nuclear-security>.

15 China, France, Russian Federation, United Kingdom and United States, “P5 Glossary of Key Nuclear Terms (2022 Edition),” PIR Center, 27 October 2022, <https://pircenter.org/en/editions/p5-glossary-of-key-nuclear-terms/>.



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